

WHAT IS CLAIMED IS:

1. A method for processing network packets on a computer network,
comprising:

5 transferring the network packets over the computer network based on a
policy wherein network packets having a high priority are transferred before network
packets having a low priority; and

performing cryptographic processing of the network packets using the
policy.

10

2. The method of claim 1, wherein cryptographic processing includes
encryption and decryption of network packets.

15

3. The method of claim 1, wherein cryptographic processing is performed
such that processing of the network packets having a low priority are suspended in favor
of the network packets having the high priority.

20

4. The method of claim 1, wherein the policy is a quality of service policy
model.

25

5. The method of claim 1, wherein performing cryptographic processing
further comprises processing the network packets having the highest priority and
continually checking whether a higher-priority network packet than a network packet
being processed is available for processing.

30

6. The method of claim 5, further comprising determining that a higher-
priority packet than the network packet being processed is available to have
cryptographic processing performed and suspending processing of the network packet
being processed and processing instead the higher-priority network packet.

7. A method for processing network packets on a computer network,
comprising:

transferring the network packets over the network using quality of service
programs that are based on quality of service policies;

performing cryptographic processing on the network packets using the quality of service policies;

wherein network packets having a high priority are transferred and cryptographically processed before network packets having a low priority.

5

8. The method of claim 7, wherein the quality of service policies are rules and criteria regarding a priority of the network packets.

9. The method of claim 7, wherein cryptographic processing includes periodically determining whether a higher-priority network packet than a current network packet being processed requires cryptographic processing.

10. The method of claim 9, wherein cryptographic processing includes stopping the current network packet being processed and processing the higher-priority network packet.

11. The method of claim 7, wherein cryptographic processing is performed using Internet protocol security programs for encrypting and decrypting the network packets.

20

12. A network packet management system for managing network packets on a computer network, comprising:

a quality of service policy module that contains priority policies for handling of the network packets;

25

a quality of service module in communication with the quality of service policy module that manages the sequencing of the network packets over the computer network based on the priority policies; and

a internet protocol security module in communication with the quality of service policy module that manages the encryption and decryption of the network packets based on the priority policies.

30

13. The network packet management system of claim 12, wherein the internet protocol security module comprises an encryption module for encrypting network packets and a decryption module for decrypting network packets.

14. The network packet management system of claim 12, wherein the priority policies are based on a quality of service policy model.

5 15. The network packet management system of claim 12, wherein the priority policies are regulations that govern the order in which network packets are processed by the quality of service module and the internet protocol security module.

10 16. The network packet management system of claim 15, wherein the encryption module encrypts the network packets in order of priority with the highest-priority network packet being processed first.

15 17. The network packet management system of claim 16, wherein the encryption module receives a higher-priority network packet during the encryption of the highest-priority network packet and suspends encryption of the highest-priority network packet and encrypts the received higher-priority network packet.

20 18. The network packet management system of claim 15, wherein the decryption module decrypts the network packets in order of priority with the highest-priority network packet being processed first.

25 19. The network packet management system of claim 18, wherein the decryption module receives a higher-priority network packet during the decryption of the highest-priority network packet and suspends decryption of the highest-priority network packet and decrypts the received higher-priority network packet.